

REMARKS

The Office Action dated November 18, 2003 has been received and carefully noted.

The above amendments to the claims and the following remarks are submitted as a full and complete response thereto. Claims 1-8 are pending in this application with claims 1, 3, 4, 6 and 7 being amended. No new matter is presented. In the outstanding Office Action claims 1-4 and 6-8 were rejected under 35 U.S.C. § 112, first and second paragraphs and claims 1-8 were rejected under 35 U.S.C. § 102. Applicants request reconsideration of claims 1-8.

35 U.S.C. § 112, First Paragraph

In the outstanding Office Action, claims 1-4 and 6-8 were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In view of the above amendments and the following remarks, Applicant requests reconsideration of claims 1-4 and 6-8.

Regarding claim 1, the Office Action asserts that this claim is not enabled since the specification does not describe a one step method. Contrary to the Office Action's assertion, the specification teaches a one step method at page 7, lines 20-30. Therefore, the specification enables a one step method. Claim 1, however, has been amended to a two-step method to improve readability. Accordingly, Applicants request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 112, first paragraph.

Regarding claim 3, the Office Action also asserts that this claim is not enabled, since the specification does not describe a one step method. Contrary to the Office Action's assertion, the specification at page 7, line 20-30 teaches a one step method. In fact the one step method taught in this part of the specification is almost identical to the method recited in claim 3 prior to the current amendment. Claim 3, however, has been amended to a two-step method claim to improve it's readability. Accordingly, Applicants request reconsideration and withdrawal of this rejection of claim 3 under 35 U.S.C. § 112, first paragraph.

Also regarding claim 3, the Office Action asserts that "the adjusting of said delay is irrespective of said comparison when starting the step of adjusting said delay" is not described in the specification. The specification, however, teaches this element at page 15, line 12 to page 16, line 33. Applicants have amended this portion of claim 3, however, to read "the adjusting of said delay at an initial stage of the adjusting is to increase said delay irrespective of said comparison when starting the step of adjusting of said delay" to improve the readability of the claim. This claim element as amended is also enabled in the specification at page 15, line 12 to page 16, line 32. Accordingly, Applicants request reconsideration and withdrawal of this rejection of claim 3 under 35 U.S.C. § 112, first paragraph.

Regarding claim 4 and 6, the Office Action asserts that the specification fails to describe that "the steps of judging and delaying are irrespective of said comparison when starting the delay time adjustment." While the specification teaches this concept at page 15, line 12 to page 16, line 33. This portion of these claims has been amended to broaden the claim language to read "the step of delaying at an initial stage of

adjustment is to increase the delay time irrespective of said comparison when starting the delay time adjustment.” This amendment is also enabled in the specification at page 15, line 12 to page 16, line 33. Accordingly, Applicants request reconsideration and withdrawal of the rejection of claim 4 and 6 under 35 U.S.C. § 112, first paragraph.

Regarding claims 7 and 8, the Office Action asserts that the specification fails to describe that “the steps of delaying, phase detecting, and adjusting are irrespective of said comparison when starting the delay time adjustment” recited in claim 7. The specification, however, describes this element at page 15, line 12 to page 16, line 33. The Applicant, has elected to broaden this portion of the claim language to read “the step of delaying at an initial stage of adjustment is to increase the delay time irrespective of said comparison when starting the delay time adjustment.” Support for claim 7 as amended is also formed in the specification at page 15, line 12 to page 16, line 33. Accordingly, Applicants, request reconsideration and withdrawal of the rejection of claim 7 and 8 under 35 U.S.C. § 112, first paragraph.

35 U.S.C. § 112, Second Paragraph, Rejection

In the outstanding Office Action, claims 1-4 and 6-8 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In view of the above amendments and the following remarks, Applicant requests consideration of claims 1-4 and 6-8.

Regarding claim 1, the Office Action asserts that the recitation of “increasing the delay time in response to ...” rendered the claim indefinite without a step of comparing

the signals. Claim 1 did compare the phases of the input and output signals. However, to improve the readability of this claim, claim 1 has been amended to explicitly recite the comparing step as a separate step. Accordingly, Applicant requests reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 112, second paragraph.

Regarding claims 3, 4, 6, and 7, the Office Action took the position that the term “irrespective” in “adjusting of the delay time is irrespective said comparison when starting the step of adjusting of said delay” is indefinite. Claims 3, 4, 6 and 7 have been amended to clearly recite that the delay time is increased at an initial stage of the adjustment irrespective of the phase comparison. Therefore, claims 3, 4, 6 and 7 particularly point out and distinctly claim the subject matter which Applicant regards as his invention. Accordingly, Applicant respectfully requests reconsideration and withdrawal of these rejections of claims 3, 4, 6, 7 and 8 under 35 U.S.C. § 112, second paragraph.

Also regarding claim 3, Applicant has rearranged this claim to improve the claim’s readability without altering the scope of the claim. Accordingly, Applicant requests reconsideration and withdrawal of the remaining two rejections of claim 3 under 35 U.S.C. § 112, second paragraph.

35 U.S.C. § 102(b)

Claims 1 and 2 were rejected under 35 U.S.C. § 102(b) as being anticipated by Applicant’s Admitted Prior Art (AAPA) (Fig. 1). The Office Action asserts that the Admitted Prior Art (Fig. 1) teaches and/or suggests the features recited in claims 1 and 2. Applicant respectfully disagrees.

Amended claim 1 recites a delay time adjusting method of adjusting a delay time of an input signal so that a phase of said input signal and a phase of an output signal match each other, the method comprising the steps of comparing phases of said output signal and said input signal with each other and starting an increase of the delay time at any time when a phase difference is detected in the step of comparing.

The AAPA teaches comparing two signals. When high frequency signals are used in the AAPA, however, the phase of the delay clock signal dclk may be behind the phase of the target clock signal tclk (see Figs. 4(b) and (e)). As disclosed on page 6, lines 2-10 of the specification, AAPA is not able to adjust the delay time of the DLL array so that the phase of the delay clock dclk matches the target clock tclk. Consequently, the AAPA fails to start an increase of the delay time at any time when a phase difference is detected.

Thus, the AAPA fails to teach and/or suggest the claimed invention. Specifically, the Admitted Prior Art (AAPA) (Fig. 1) fails to teach and/or suggest starting an increase of the delay time at any time when a phase difference is detected in the step of comparing.

Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1 and 2 under 35 U.S.C. § 102(b).

35 U.S.C. § 102(e)

Claims 3-8 were rejected under 35 U.S.C. § 102(e) as being anticipated by Lu (U.S. Patent No. 6,100,735). Applicant requests reconsideration of this rejection.

Claims 3-4 and 6-8 all recite in part that "the adjusting of said delay at an initial stage of the adjusting is to increasing said delay irrespective of said comparison when

starting the step of adjusting of said delay.” Lu is not cited for and does not disclose this feature.

Therefore, Lu fails to teach and/or suggest claims 3-4 and 6-8. Specifically, Lu fails to teach and/or suggest adjusting of said delay at an initial stage of the adjusting is to increasing said delay irrespective of said comparison when starting the step of adjusting of said delay. Accordingly, Applicant requests reconsideration and withdrawal of the rejection of claims 3-4 and 6-8 under 35 U.S.C. § 102.

Claim 5 recites in part a “delaying means for increasing a delay time of said phase of said output signal irrespective of said detection of phase difference when starting the delay time adjustment until said phase difference becomes N periods, where N is an integer other than zero.”

This claim element is a means-plus-function claim element under 35 U.S.C. § 112, sixth paragraph. Accordingly, to anticipate this claim element Lu must disclose the exact function recited in the claim element and the same or equivalent structure used to perform this function.

Lu discloses that buffers 12 and mux 20 perform the function of increasing the delay time of the place of the output signal. However, Lu fails to disclose the function of increasing a delay time of said phase of said output signal irrespective of said detection of phase difference when starting the delay time adjustment until said phase difference becomes N periods, where N is an integer other than zero. Since Lu fail to disclose the exact function, we do not need to compare Lu's structure to that disclosed in the present specification.

Therefore, Lu fails to teach and/or suggest claim 5. Specifically Lu fails to teach the function of increasing a delay time of said phase of said output signal irrespective of said detection phase difference when starting the delay time adjustment until said phase difference becomes N periods, where N is an integer other than zero. Thus, Lu fails to teach and/or suggest the delaying means for increasing a delay time of said phase of said output signal irrespective of said detection phase difference when starting the delay time adjustment until said phase difference becomes N periods, where N is an integer other than zero.

Therefore, it is submitted that Lu fails to teach and/or suggest the features of the claimed invention. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 3-8 under 35 U.S.C. § 102(e).

Conclusion

Applicant's amendments and remarks have overcome the rejections set forth in the Office Action dated November 18, 2003. Applicant's amendments to claims 1, 3, 4, 6 and 7 and Applicant's remarks have overcome the rejections to claims 1-4 and 6-8 under 35 U.S.C. § 112 (two separate rejections). Applicant's remarks have distinguished claims 1-2 from Applicant's Admitted Prior Art and thus overcome the rejection of these claims under 35 U.S.C. § 102(b). Applicant's remarks have distinguished claims 3-8 from Lu and thus overcome the rejection of these claims under 35 U.S.C. § 102(e).

Accordingly, claims 1-8 are in condition for allowance. Therefore, Applicant respectfully requests consideration and allowance of claims 1-8.

Applicant submits that the application is now in condition for allowance with claims 1-8 contained therein. Should the Examiner believe the application is not in condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

In the event this paper is not considered to be timely filed, Applicant respectfully petitions for an appropriate extension of time. The Commissioner is authorized to charge payment for any additional fees, which may be required with respect to this paper to Counsel's Deposit Account 01-2300, referencing attorney docket number 100353-00039.

Respectfully submitted,

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